

engaging said workpiece surface with said sheath tip rim to thereby cause the sheath tip rim to splay outwardly upon said contacting to form a continuous seal about the periphery of said electrode tip;

with said electrode tip electrically engaging said workpiece, imparting a desired electrical bias to said workpiece; and

exposing said electrically biased workpiece to desired processing conditions.

9. The workpiece processing method of claim 8 further comprising supporting said workpiece in a position adjacent said sheathed electrode.

10. The workpiece processing method of claim 8 wherein said positioning step comprises: moving said electrode along a first motion axis away from a disengaged position; and moving said electrode along a second motion axis that is different from said first motion axis toward an engaged position .

11. The workpiece processing method of claim 8 wherein said positioning step comprises: longitudinally moving said electrode along a longitudinal movement axis away from a disengaged position in which said workpiece surface is not engaged by said electrode tip; and rotating said electrode about said longitudinal movement axis toward an engaged position in which said electrode tip is placed in electrical contact with said workpiece surface.

12. The workpiece processing method of claim 8 wherein said positioning step comprises:
moving said electrode along a first motion axis away from a disengaged position;
moving said electrode along a second motion axis toward an engaged position, said second motion axis being different from said first motion axis;
said engaging step comprising advancing said electrode tip from a retracted position within the sheath to an unretracted position in which said workpiece surface is physically engaged by the electrode tip.

13. The workpiece processing method of claim 8 wherein said positioning step comprises:
longitudinally moving said sheathed electrode along a longitudinal movement axis away from a disengaged position in which said workpiece surface is not engaged by said electrode tip;
rotating said electrode about said longitudinal movement axis and toward an engaged position in which said electrode tip may engage said workpiece surface; and
said engaging step comprising advancing said electrode tip from a retracted position within the sheath to an unretracted position in which said workpiece surface is physically engaged by the electrode tip.

14. A process for electroplating a metal onto the surface of a workpiece comprising:
placing the workpiece upon a processing head including an electrode contact assembly, the electrode contact assembly comprising at least one electrode contact having a contact tip and at least one sealing member disposed proximate the contact tip of the at least one electrode contact, the at least one sealing member including a resilient rim;

driving the electrode contact assembly into engagement with the workpiece to place the at least one electrode contact into electrical engagement with the workpiece, the at least one sealing rim splaying away from the contact tip of the at least one electrode contact to thereby form a continuous seal against a surface of the workpiece;

placing the workpiece into contact with an electrolyte;

providing electrical power to the at least one contact and an anode disposed in electrical contact with the electrolyte to thereby electroplate the metal on the workpiece.

15. A process for electroplating a metal onto the surface of a workpiece comprising:

placing the workpiece upon a processing head including an electrode contact assembly, the electrode contact assembly comprising a plurality of electrode contacts each having a contact tip and a plurality of sealing members respectively associated with an proximate each of the contact tips, each of the plurality of sealing members including a respective resilient rim;

driving the electrode contact assembly into engagement with the workpiece to place the plurality of electrode contacts into electrical engagement with the workpiece, the sealing rims splaying radially outward from each respective contact tip to thereby form a continuous seal against a surface of the workpiece around the respective contact tip;

placing the workpiece into contact with an electrolyte;

providing electrical power to the at least one contact and an anode disposed in electrical contact with the electrolyte to thereby electroplate the metal on the workpiece.